

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently Amended) An eye fixation apparatus, comprising:
an eye fixation portion, wherein the eye fixation portion has an annular convex bottom contact portion, said convex bottom contact portion including a concave bottom surface, which goes upon the surface of an eyeball and encircles the cornea, and wherein the contact portion bottom surface is provided with criss-crossing channels; and
a vacuum port connected to said eye fixation portion and in communication with said criss-crossing channels such that vacuum pressure applied to said vacuum port exerts vacuum pressure through such criss-crossing channels to pull the eyeball membrane to the criss-crossing channels.
2. (Original) The eye fixation apparatus of claim 1, further comprising adjustment arms connected to said eye fixation portion.
3. (Original) An eye fixation apparatus of claims 1 or 2, further comprising a first annular translation guide member adjustably connected to the eye fixation portion, wherein the first translation guide member portion can translate laterally in relation to the eye fixation portion.
4. (Original) The apparatus of claims 3, wherein the first translation guide member is provided with a first translation rod and a first adjustment knob for translating the first translation guide member.
5. (Original) The apparatus of claims 3, further comprising a docking screw screwed through the first translation guide member for tightening the first translation guide member against objects inserted into the cylindrical space formed by the first annular translation guide member.

6. (Original) The apparatus of claims 4, further comprising a docking screw screwed through the first translation guide member for tightening the first translation guide member against objects inserted into the cylindrical space formed by the first annular translation guide member.

7. (Original) The apparatus of claims 4, further comprising a second translation guide member adjustably connected to the first translation guide member, wherein the second translation guide member can translate laterally in relation to the first translation guide member in a direction not parallel to the translation of the first translation guide member.

8. (Original) The apparatus of claims 7, wherein the second translation guide member is provided with a second translation rod and an adjustment knob for adjusting the second translation guide member.

9. (Original) The apparatus of claims 7, further comprising a docking screw screwed through the second translation guide member for tightening the second translation guide member against objects inserted into the cylindrical space formed by the annular second translation guide member.

10. (Original) The apparatus of claims 8, further comprising a docking screw screwed through the second translation guide member for tightening the second translation guide member against objects inserted into the cylindrical space formed by the annular second translation guide member.

11. (Currently Amended) A method of fixating an eye cornea for surgery, comprising:

placing an eye fixation apparatus upon the eye globe conjunctiva around the cornea, wherein the eye fixation apparatus comprises an eye fixation portion with an annular convex bottom contact portion, said convex bottom contact portion including a concave bottom surface, provided with criss-crossing

channels, and a vacuum port connected to said eye fixation portion and in communication with said criss-crossing channels such that vacuum pressure applied to said vacuum port exerts vacuum pressure through such criss-crossing channels to pull the eyeball membrane to the criss-crossing channels; and

applying vacuum pressure to said vacuum port creating a pressure differential through said criss-crossing channels in relation to said conjunctiva, adhering said conjunctiva to said contact portion bottom surface.

12. (Currently Amended) The method of claims 11, further comprising:

checking to see said eye fixation apparatus is centered around the cornea; and

shutting off the vacuum pressure if said eye fixation apparatus is not centered around the cornea, recentering said eye fixation apparatus, and reapplying said vacuum pressure.

13. (Original) The method of claims 11 or 12, wherein the eye fixation apparatus is further provided with adjustment arms connected to said eye fixation portion.

14. (Previously Presented) The method of claims 11 or 12, further comprising adjustably connecting a first annular translation guide member to the eye fixation portion to translate said first guide member laterally in relation to the eye fixation portion.

15. (Previously Presented) The method of claim 14, wherein the first translation guide member is adjusted using a first translation rod and a first adjustment knob.

16. (Previously Presented) The method of claim 13, further comprising tightening the first translation guide member against objects inserted into the cylindrical space formed by the first annular translation guide member with a docking screw threaded through the first translation guide member.

17. (Previously Presented) The method of claim 14, further comprising tightening the first translation guide member against objects inserted into the cylindrical space

formed by the first annular translation guide member with a docking screw threaded through the first translation guide member.

18. (Previously Presented) The method of claim 14, further comprising adjustably connecting a second translation guide member to the first translation guide member to translate said second guide member in a direction non-parallel to the first guide member.

19. (Previously Presented) The method of claim 18, wherein the second translation guide member is adjusted using a second translation rod and a second adjustment knob.

20. (Previously Presented) The method of claim 18, further comprising tightening the second translation guide member against objects inserted into the cylindrical space formed by the second annular translation guide member with a docking screw threaded through the second translation guide member.

21. (Previously Presented) The method of claim 19, further comprising tightening the second translation guide member against objects inserted into the cylindrical space formed by the second annular translation guide member with a docking screw threaded through the second translation guide member.

22. (Currently Amended) An eye fixation apparatus, comprising:

an eye fixation portion, wherein the eye fixation portion has a low-profile annular convex bottom contact portion, said convex bottom contact portion including a concave bottom surface, which goes upon the surface of an eyeball and encircles the cornea, and wherein the contact portion bottom surface is provided with criss-crossing channels;

a vacuum port connected to said eye fixation portion and in fluid communication with said criss-crossing channels;

a first annular translation guide member with a first translation rod and first adjustment knob, adjustably connected to the eye fixation portion, wherein the first translation guide member portion can translate laterally in relation to the

eye fixation portion using said first adjustment knob acting upon said first translation rod;

a second annular translation guide member with a second translation rod and second adjustment knob, adjustably connected to the first translation guide member, wherein the second translation guide member portion can translate laterally in relation to the first translation guide member and eye fixation portion using said second adjustment knob acting upon second first translation rod;

a first and a second docking screw screwed through said first and second translation guide members, respectively, and for tightening the first and second translation guide members against objects inserted into the cylindrical space formed by the first and second annular translation guide members; and

wherein, the profile of said eye fixation portion is substantially narrow so as to fit under the eye lid of a patient without use of a lid speculum.